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| 10/720,481 | 11/25/2003 | Toshio Manaka | 056203.52940US | 4362 |
| 23911 7590 03/18/2008 CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300 | | | EXAMINER HSIAO, JAMES K | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/720,481

Applicant(s)

MANAKA, TOSHIO

Examiner

JAMES K. HSIAO

Art Unit

3683

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 15-25 and 27-30 is/are rejected.
- 7) ☒ Claim(s) 26 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
- Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 15-25 and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirai et al in view of Watabe et al. (JP 58-71253) and Crossman (US-4542809).

Regarding claims 15-22 and 27-30 Shirai discloses an electro-mechanical braking device comprising: a motor for generating a rotation torque when power is supplied thereto (figure 2, element 14); a braking pad responsive to the rotation torque of the motor for depressing a braking disc to generate a braking force (figure 2, element 16); and an electric parking brake mechanism responsive to reception of a control signal for controlling a parking brake (figure 9), wherein the rotation torque generated by the motor is controlled to control the braking force on the basis of step-on amount of a braking pedal or a braking force instruction, the control signal for controlling the parking brake state is transmitted to the electric parking brake mechanism on the basis of a parking brake instruction(column 32, lines 44-51).

Regarding claims 23, 24, and 25, Shirai discloses an electro-mechanical braking device wherein the condition that the vehicle is rendered to be stop state includes that the vehicle has a speed of substantially zero and an engine rotational speed of

substantially zero (figure 17, elements s223 and s224). Shirai discloses an electro-mechanical braking device wherein the control signal for controlling the parking brake state is transmitted to the electric parking brake mechanism on the basis of satisfying the condition that a transmission gear is rendered to be non-connected state. Shirai discloses a control signal for controlling the parking brake state is transmitted to the electric parking brake mechanism on the basis of a state indicating that an acceleration pedal is not stepped on (figure 9, element 226)

Regarding Claims 15,21, and 22 Shirai et al. does not teach a parking brake mechanism for maintaining braking force when power not supplied to said electro-mechanical brake a control signal thereto turned off, wherein when the braking pedal stroked or the braking operation signal is detected, said parking- brake mechanism controlled so that braking force may be maintained by said electro-mechanical brake and wherein when the braking pedal is stepped on or the braking operation signal is detected, depending on a state of a power supply switch or an ignition key switch of the vehicle, it is determined whether the braking force of the electro-mechanical brake is maintained by the parking brake mechanism or not.

Watabe et al. discloses the control signal for controlling the parking brake state that is transmitted to the electric parking brake mechanism on the basis of detecting that a switch for a power source is changed to non-operative state when the braking pedal is stepped on or the braking force instruction is received, and the lock mechanism is actuated on the basis of the control signal. (See abstract)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the electro-mechanical brake of Shirai with the art of Watabe et al. to maintain the brake force status with the ignition in the off position in order to provide a safety measure due to power loss.

Regarding claims 15, 16, 17, 18, 19, and 20, Shirai lacks a locking device. Crossman discloses an electromechanical braking device comprising a rotation/linearity movement conversion mechanism for converting the rotation torque generated by the motor into a linear movement (figure 1), wherein the lock mechanism mechanically locks the linear movement of the rotation/linearity movement conversion mechanism to maintain the braking force. (Abstract lines 20-22 and column 2, lines 45-53)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the discloser of the above with the locking device of Crossman in order to maintain the braking force in the locked position and provide a safety measure in case of a power loss.

Regarding claims 28 and 29, Shirai discloses in view of Watabe and Crossman all of the above elements. Claims 28 and 29 are methods of using the described apparatuses.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the inventions of Shirai, Watabe and Crossman to use said method in order to operate the parking brake.

Regarding claims 27 and 30, it is inherent that when a vehicle is driving or that the driving source and driving axis are connected to each other, then the parking brake lock will be disabled and the brake will be released.

Allowable Subject Matter

3. Claim **26** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 12/12/07 have been fully considered but they are not persuasive. Examiner respectfully disagrees that the JP'253 reference does not teach the parking brake lock mechanism set forth by claim 15. Please see the abstract that specifically states that the lock mechanism is prevented from being released even if an ignition key switch is turned off.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES K. HSIAO whose telephone number is (571)272-6259. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JKH

/Robert A. Siconolfi/
Supervisory Patent Examiner, Art
Unit 3683